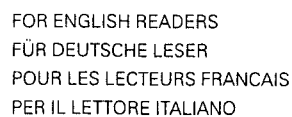



DENO-00351

INSTRUÇÕES DE OPERAÇÃO

5779453004 Y34
 MANUAL GRM530



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DENON SERVICE NETWORK / 服務網絡

- Please contact one of our overseas service centers, listed below, for follow-up service consultation.
- Wenden Sie sich für anfallende Wartungs- bzw. Reparaturarbeiten bitte an eine der folgend aufgeführten Kundendienststellen.
- Adressez-vous à nos centres de service d'outre-mer indiqués ci-dessous, pour le service après-vente.
- Per il servizio dopo vendita rivolgete Vi al nostro centro di servizio estero appropriato della lista seguente.
- Para consultas de servicio porfavor dirigirse a cualquiera de nuestros centros de servicio en el extranjero, enlistados abajo.
- Neem kontakt op met één van onze reparatie-inrichtingen in het buitenland, waarvan hier een lijst volgt, voor na-service.
- Ta kontakt med nedan angivna servicecentraler för rådfrågning om servicearbeten efter försäljningen.
- Favor contactar um de nossos centros de serviços internacionais, abaixo listados, para consulta de serviços de acompanhamento.
- 請向下列本公司海外服務中心查詢售後服務事宜。

Australia	AWA Limited. 112-118 Talavera Road, North Ryde NSW 2113, Australia, Postal Locked Bag No. 12, North Ryde. Tel: (02) 888-9000, Fax: (02) 888-9310, Telex: AA 22692
Austria	Digital-Professional-Audio Vertriebsges.m.b.H., 1170 Wien, Rupertusplatz 3 Tel: 0222-4501006-9, Fax: 0222-457679
Belgium	Transtel-Sabima P.V.B.A. Harmoniestraat 13, 2018 Antwerpen 1, België Tel: 03-237-3607
Canada	Denon Canada Inc. 17 Denison Street, Markham Ontario, Canada L3R 1B5 Tel: 905-475-4085
China	Shanghai Denon Products Service Co., Ltd. 638 Hua Shan Road, Jingan-qu, Shanghai Tel: (21) 248-6226
Denmark	Audionord Danmark A/S. Vester Alle 7, 8000 Århus C. Tel: 86-128811
Finland	Suomen Hi-Fi Klubi OY Nylandsgratan 4-6, Helsingfors Tel: 0644401
France	Denon France S.A. 3 Boulevard Ney, 75018 Paris Tel: (1) 40 35 14 14
F.R. Germany	Denon Electronic GmbH Halskestraße 32, 40880 Ratingen Tel: 02102-4985-0
Greece	Kinotechniki Ass. 47 Stournara Str., Athens Tel: 3606 998
Hong Kong	Denon Hong Kong Ltd., 11/F North, Somerset House 979 King's Road, Quarry Bay, Hong Kong Tel: 516-6862, Fax: 516-5940
Iceland	Japis Ltd. Brautarholt 2, Box 396, 101 Reykjavik, Iceland Tel: 27133
Indonesia	PT Autoaccindo Jaya. Cideng Barat No. 7 Jakarta, Indonesia Tel: 3852720
Italy	Melchioni S.P.A. Via P. Colletta 37-20135 Milano Tel: 02-57941
Korea	Daiyoung Industrial Co., Ltd. 1027-5 Bangbae-dong, Socho-gu, Seoul 137-060 Tel: (02) 588-3960
Malaysia	Pertama Audio Sdn. Bhd. 44-46 Jalan SS 22/21 Damansara Jaya, 47400 Selangor, Malaysia Tel: 719 3957
Mexico	Labrador, S.A. de C.V. Zamora No. 154 Col. Condesa 06140 Mexico, D.F. Tel: 286 55 09 Fax: 286 34 62
Netherlands	Penhold B.V. Isarweg 6, 1043 AK Amsterdam Tel: 020-611-4957
New Zealand	Avalon Audio Corp. Limited 119 Wellesley Street, Auckland 1, New Zealand Tel: 09-779-351, 09-775-370
Norway	Hi-Fi Klubben Box 70 Ankertorget, 0133 Oslo 1 Tel: 02-112218
Philippines	Avesco Marketing Corporation, Aurora Blvd. cor Yale, Cubao, Q.C., PHILS. Tel: 912-8881, Fax: 912-2999
Portugal	Videoacustica Qta. Do Paizinho-Armazém 5-Estrada De Circunvalação-Apart. 3127 1303 Lisboa Codex Tel: 2187004/2187096
Singapore	Pertama Audio Pte. Ltd. Alexandra Distripark Blk 4, No. 03-39 Pasir Panjang Road, Singapore 0511 Tel: 278-4411
Spain	Gaplaza S.A. Conde de Torroja, 24, 28022 Madrid Tel: 747-7777
Sweden	Sveriges Hi-Fi Klubb Box 5116, S-402 23 Göteborg, Tel: 031-200040
Switzerland	Diethelm & Co., AG. Grindelsstrasse 5, 8303 Bassersdorf Tel: 01-838-1611
Taiwan R.O.C.	Taiwan Kolin Co., Ltd. 10th Fl., 86, Sec. 1, Chung-king S. Rd., Taipei, Taiwan R.O.C. Tel: (02) 314-3151 (20 Lines), Fax: (886) 02-3614037 Telex: 11102 TKOLIN
進口廠商	KOLIN 歌林股份有限公司 台北市重慶南路一段86號10樓 電話: (02) 314-3151
Thailand	Mahajak Development Co., Ltd. 6th Fl., Mahajak Building, 46 Sukhumvit 3 (Nananua), Klongteoy, Prakranong, Bangkok 10110 Tel: 256-0000
United Kingdom & Eire	Hayden Laboratories Ltd. Hayden House, Chiltern Hill, Chalfont St. Peter Gerrards Cross, Bucks. SL9 9UG Tel: 0753-888447
U.S.A.	DENON ELECTRONICS, a Division of Denon Corporation (U.S.A.) 222 New Road Parsippany, NJ07054, U.S.A., Tel: 201-882-7490, Fax: 201-575-1213

- * If there is no service center in your local area, consult the outlet where the equipment was purchased.
- * Falls sich in Ihrer Nähe keine Kundendienststelle befindet, wenden Sie sich an das Geschäft, wo das Gerät gekauft wurde.
- * S'il n'y a aucun centre de service dans votre région, consultez votre revendeur.
- * Se nella Vostra zona non c'è il centro di servizio, rivolgete Vi al negozio dove avete acquistato l'apparecchio.
- * Si no hay centros de servicio en su área local, consulte en donde haya comprado su equipo.
- * Als er in uw streek geen reparatie-inrichting is, neemt u kontakt op met de vestiging waar u de apparatuur gekocht heeft.
- * Saknas servicecentral i närheten där du bor, bör kontakt tas med återförsäljaren för apparaten.
- * Se não existir um centro de serviços em sua área local, consulte o estabelecimento onde o equipamento foi adquirido.
- * 若當地無服務中心、可向你購入本機的商號查詢。

NIPPON COLUMBIA CO., LTD.

H50831

14-14, AKASAKA 4-CHOME, MINATO-KU, TOKYO 107-11, JAPAN

Telephone: (03) 3584-8111

Cable: NIPPON COLUMBIA TOKYO Telex: JAPANOLA J22591

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● DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards:

EN55013, EN55020, EN60555-2 and EN60555-3.

● ÜBEREINSTIMMUNGSERKLÄRUNG

Wir erklären unter unserer Verantwortung, daß dieses Produkt, auf das sich diese Erklärung bezieht, den folgenden Standards entspricht:

EN55013, EN55020, EN60555-2 und EN60555-3.

● DECLARATION DE CONFORMITE

Nous déclarons sous notre seule responsabilité que l'appareil, auquel se réfère cette déclaration, est conforme aux standards suivants:

EN55013, EN55020, EN60555-2 et EN60555-3.

● DICHIARAZIONE DI CONFORMITÀ

Dichiariamo con piena responsabilità che questo prodotto, al quale la nostra dichiarazione si riferisce, è conforme alle seguenti normative:

EN55013, EN55020, EN60555-2 e EN60555-3.

● DECLARACIÓN DE CONFORMIDAD

Declaramos bajo nuestra exclusiva responsabilidad que este producto al que hace referencia esta declaración está conforme con los siguientes estándares:

EN55013, EN55020, EN60555-2 y EN60555-3.

● EENVORMIGHEIDSVERKLARING

Wij verklaren uitsluitend op onze verantwoordelijkheid dat dit produkt, waarop deze verklaring betrekking heeft, in overeenstemming is met de volgende normen:

EN55013, EN55020, EN60555-2 en EN60555-3.

● ÖVERENSSTÄMMELSESINTYG

Härmed intygas helt på eget ansvar att denna produkt, vilken detta intyg avser, uppfyller följande standarder:

EN55013, EN55020, EN60555-2 och EN60555-3.

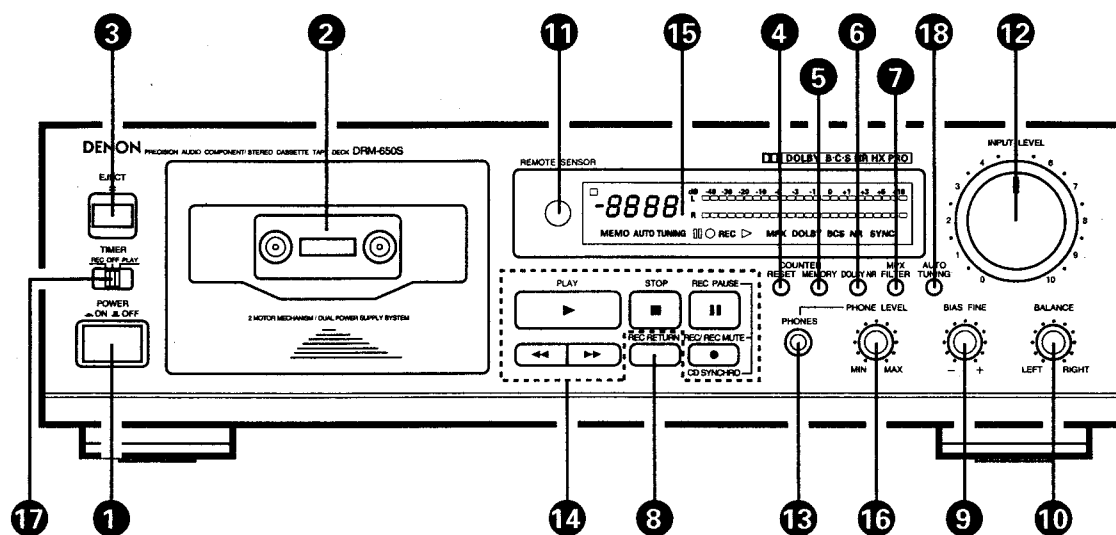
● DECLARAÇÃO DE CONFORMIDADE

Declaramos sob nossa exclusiva responsabilidade que este produto, ao qual esta declaração corresponde, está em conformidade com as seguintes normas;

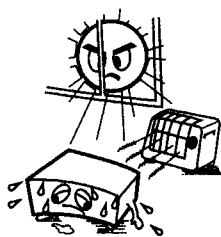
EN55013, EN55020, EN60555-2 e EN60555-3.

FRONT PANEL
FRONTPLATTE
PANNEAU AVANT
PANNELLO ANTERIORE

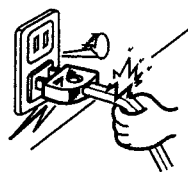
PANEL FRONTAL
VOORPANEEL
FRAMSIDA
PAINEL FRONTAL



**NOTE ON USE / HINWEISE ZUM GEBRAUCH / OBSERVATIONS RELATIVES A L'UTILISATION
NOTE SULL'USO / NOTAS SOBRE EL USO / ALVORENS TE GEBRUIKEN / OBSERVERA
OBSERVAÇÕES QUANTO AO USO**



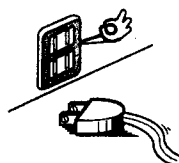
- Avoid high temperatures
Allow for sufficient heat dispersion when installed on a rack.
- Vermeiden Sie hohe Temperaturen
Beachten Sie, daß eine ausreichend Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Eviter des températures élevées
Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte.
Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas
Permite la suficiente dispersión del calor cuando está instalado en la consola.
- Vermijd hoge temperaturen.
Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer.
Se till att det finns möjlighet till god värmeavledning vid montering i ett rack.
- Evite temperaturas altas
Conceda suficiente dispersão de calor quando o equipamento for instalado numa prateleira.



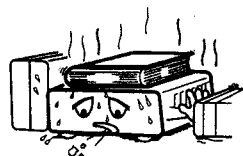
- Handle the power cord carefully.
Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution.
Tenir la prise lors du débranchement du cordon.
- Maneggiare il filo di alimentazione con cura.
Agite per la spina quando scollegate il cavo dalla presa.
- Maneje el cordón de energía con cuidado.
Sostenga el enchufe cuando desconecte el cordón de energía.
- Hanteer het netsnoer voorzichtig.
Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln varsamt.
Håll i kabeln när den kopplas från el-uttaget.
- Manuseie com cuidado o fio condutor de energia.
Segure a tomada ao desconectar o fio.



- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm.
- Mantenha o aparelho livre de qualquer umidade, água ou poeira.

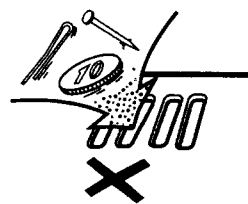


- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestare il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopcontact wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla ur nätkabeln om apparaten inte kommer att användas i lång tid.
- Desligue o fio condutor de força quando o aparelho não tiver que ser usado por um longo período.

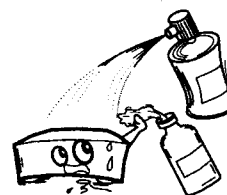


*(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
- Die Belüftungsöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
- Non coprite i fori di ventilazione.
- No obstruya los orificios de ventilación.
- De ventilatieopeningen mogen niet worden geblokkeerd.
- Tapp inte till ventilationsöppningarna.
- Não obstrua os orifícios de ventilação.



- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.
- Não deixe objetos estranhos no aparelho.



- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
- Laat geen insectenverdelgende middelen, benzine of verververdunder met dit apparaat in contact komen.
- Se till att insektsmedel på spraybruk, bensen och thinner kommer i kontakt med apparatens hölje.
- Não permita que inseticidas, benzina e dissolvente entrem em contacto com o aparelho.



- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontare mai, né modificate l'unità in nessun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modificeren.
- Ta inte isär apparaten och försök inte bygga om den.
- Nunca desmonte ou modifique o aparelho de alguma forma.

Thank you very much for purchasing the DENON component.
Stereo cassette tape deck.

DENON proudly presents this advanced tape deck to audiophiles and music lovers as a further proof of DENON's non-compromising pursuit of the ultimate in sound quality. The high quality performance and easy operation are certain to provide you with many hours of outstanding listening pleasure.

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Please check to make sure the following items are included with the main unit in the carton:

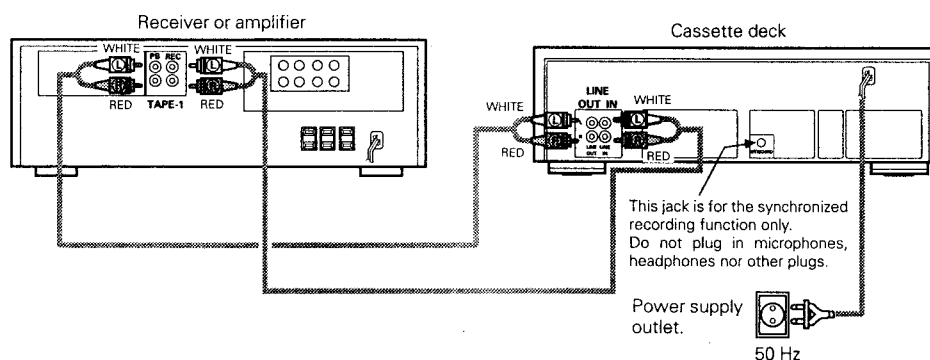
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FEATURES

- Computer Controlled Mechanism
- Non-slip Reel Drive for Stabilizing Tape Tension
- Dual Power Supply
- High Performance R/P Head
- Dolby S Noise Reduction System
- Dolby HX PRO System
- Dolby B & C Noise Reduction System
- Auto Tuning
- Manual Bias Adjustment Control
- REC Return System
- Computing Tape Counter with 4-Digit Readout and Memory Stop
- Music Search System
- FL Peak Level Meters
- Auto Tape Selector
- Synchronized Recording
- Optional Remote Controllable
- DIMMER Adjustment

CONNECTION

- Leave your entire system (including this cassette deck) turned off until all connections between the deck and other components have been completed.



■ Connecting the Deck to an Amplifier

- Before connecting the deck to your amplifier, please review your amplifier's instruction manual.
- Use the white plugs for the left channel and red plugs for the right channel.

■ Tape Dubbing

- Many stereo amplifiers and receivers have tape dubbing circuitry so that tape duplication can be performed between two or more tape decks. Review your amplifier's instruction manual for a full explanation of this mode of operation.

■ Connecting Headphones

To listen through headphones, plug your headphones into the PHONES jack.

■ Installation Precautions

If the deck is placed near an amplifier, TV or tuner, noise (induced hum) or beat interference may result, especially during FM or AM reception. If this occurs, place the deck further away from other components or reorient its position.

NAMES AND FUNCTIONS OF PARTS

1 Power Switch (POWER)

Controls the supply of AC power to the deck. One push turns the deck on, a second push turns it off. The deck remains in a stand-by (non-operative) mode for approximately 2 seconds after it is switched on.

2 Cassette Compartment Cover

If this compartment cover is not closed completely, the deck's transport controls will remain inoperative.

3 Eject Button (EJECT ▲)

Press this button to eject the cassette. When the deck is operating (tape is running), press the STOP (■) button first to stop the tape transport, then press the EJECT button.

4 Counter Reset Button (COUNTER RESET)

Operation of the button resets the counter to all zero.

5 Memory Button (COUNTER MEMORY)

During rewinding operations, the tape will stop at the "0000" counter point automatically when this button is pressed in.

6 Dolby NR Button (DOLBY NR)

To record or playback tapes with Dolby B, C or S-type noise reduction, set this button to "B", "C" or "S". Turn it off when not using the Dolby NR system. If you further press the button during the display, the type will change in the following cycle.



7 MPX FILTER Button (MPX FILTER)

The MPX FILTER button, should be used to prevent interference with the Dolby NR circuit when making Dolby NR encoded recordings of FM stereo programs. When making Dolby NR encoded recordings from any program source other than FM stereo, leave this button in the "OFF" position.

8 REC Return Button (REC RETURN)

When this button is pressed at the recording state, the tape is re-wound to the starting point. When the starting point is automatically reached, the record standby mode (rec pause state) comes.

9 Bias Fine Control (BIAS FINE)

(For NORMAL, HIGH and METAL tape)

Adjust the bias according to the tape characteristics. Standard biasing is obtained at the center click-stop position.

10 Balance Control (BALANCE)

This is the knob to adjust the recording level balance between the left and right channels. Turn it counter-clockwise to reduce the right channel's level and clockwise to reduce the left channel's. Usually, put the knob at the center click-stop position.

11 Remote Sensor (REMOTE SENSOR)

With the cassette deck the remote control unit is not included. Each of "PLAY, FF, REW, STOP, REC PAUSE and REC/REC MUTE" functions can be remote controlled with wireless handset of the receiver (DRA Series receivers). For details refer to the DRA Series operating instructions.

12 Input Level Control (INPUT LEVEL)

The recording input level is adjusted by this knob. The levels in the left and right channels can be changed simultaneously.

13 Phones jack (PHONES)

For private music enjoyment without disturbing others, or for monitoring a recording, a set of headphones may be plugged in. Impedance should be from 8 to 1200Ω/ohms.

14 Tape Transport Buttons

▶	Play Button	Press to playback tape.
■	Stop Button	Press to stop the tape in any mode.
◀◀	Fast Rewind Button	Press for fast rewind.
▶▶	Fast Forward Button	Press for fast forwarding.
● REC/REC MUTE	Rec/Rec Mute Button	Press the REC/REC MUTE (●) button and PLAY button simultaneously to start recording. If only the REC/REC MUTE (●) button is pressed, the deck enters the Recording Pause mode. Pressing this button in the Recording Pause mode will start Auto Rec Mute, and a 5-second silent space is recorded onto the tape.
 REC PAUSE	Rec Pause Button	Press this button to enter the recording pause mode from the recording or recording mute mode. This button can only be used during recording.

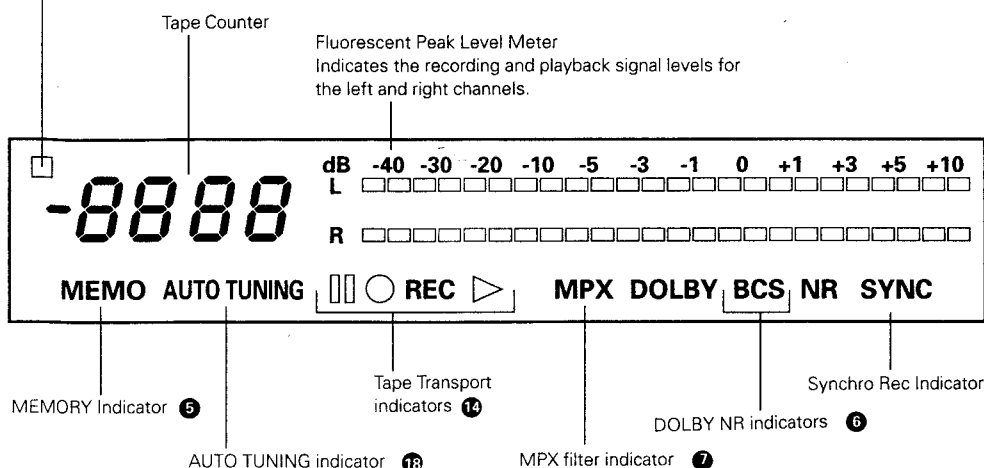
Caution:

Whenever the power switch is in the OFF state, the apparatus is still connected on AC line voltage. Please be sure to unplug the cord when you leave home for, say, a vacation.

15 Display

Indicators with an encircled number light up when the corresponding button is pressed.

Remote Control Indicator, Lights up when the remote control is operated.



16 Phone Level Control (PHONE LEVEL)

Head phone output level is adjusted by this knob. The levels in the left and right channels can be changed simultaneously.

17 Timer Switch (TIMER)

This switch is provided for use with an optional audio timer for unattended recording or morning-alarm playback. For non-timer operation, this switch should be set in the "OFF" position. (See page 11)

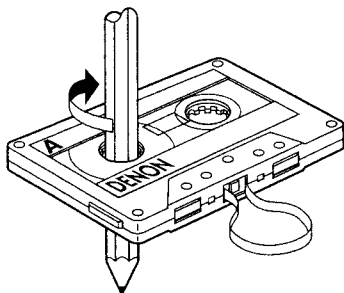
18 Auto Tuning button (AUTO TUNING)

When this button is pressed, the auto tuning operation starts and the recording characteristics most suited for the tape being used are set automatically. Refer to page 8.

CASSETTE TAPE

■ Handling Precautions

- C120 Cassettes
C120 cassette are not recommended as they use a very thin tape base which may become tangled around the capstan or pinchroller.
- Tape Slack
Before putting a tape into the deck, take up any slack with a pencil or your finger tip. This precaution is also to prevent the tape from becoming entangled around the capstan or pinchroller.

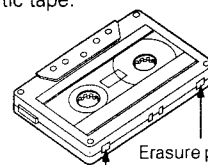


■ Storage Precautions

- Do not store cassette tapes in a place where they will be subject to:
 - Extremely high temperature or excessive moisture
 - Excessive dust
 - Direct sunlight
 - Magnetic fields (near TV set or speakers)
- To eliminate tape slack, store your cassettes in cassette cases with hub stops

■ Accidental Erasure Prevention

- Every cassette has erasure prevention tabs for each side. To protect your valuable recorded tapes from accidental or inadvertent erasure, remove the tab for the appropriate side with a screwdriver or other tools.
- To record on a tape with the erasure prevention tabs removed, cover the tab holes with plastic tape.

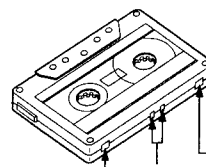


Erasure prevention tab for side A
Erasure prevention tab for side B

AUTO TAPE SELECT FEATURE

This Stereo Cassette Deck contains an Auto Tape Select feature which automatically selects the optimum bias and equalization for the tape in use. This is accomplished by detection of tape type detection holes in the cassette housing.

- If a tape without tape type detection holes is used, the deck will automatically adjust itself for normal tapes.

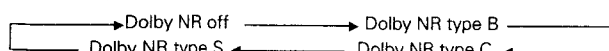


Detection holes for metal tape
Detection holes for chrome tape

PLAYBACK

- Switch on your amplifier or receiver.
- Set the Tape Monitor switch on your amplifier or receiver to the TAPE position.
- The numbers in the illustration below depict the order in which operation steps are carried out.

- 1 Press the POWER switch ① to the ON () position.
- 2 Press the EJECT () button ③ to open the cassette compartment cover ②.
- 3 Load the cassette tape and close the cassette compartment cover ②.
- 4 When listening to a tape that has been recorded with Dolby noise reduction, set the DOLBY NR button ⑥ to match the system used at the time of recording.
For recordings made without Dolby NR, set to "OFF".
For recordings made with Dolby B NR, set to "B".
For recordings made with Dolby C NR, set to "C".
For recordings made with Dolby S NR, set to "S".
Pressing the DOLBY NR button ⑥ once again switches Dolby noise reduction off.

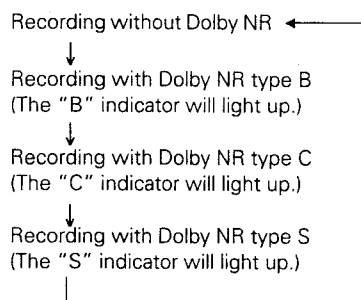


- 5 Press the PLAY () button ⑭ to begin playback. The "▷" indicator will light during playback.
- 6 Press the STOP () button ⑭ to stop the playback.
 - If different types of Dolby noise reduction are used for record and playback, playback response will be adversely effected.
 - When power is turned off during tape transport, it may not be possible to remove the cassette by pressing the EJECT () button. In this case, turn on power again before you press the EJECT () button.

RECORDING

- Switch on your amplifier or receiver and the source component.
- Set the Tape Monitor switch on your amplifier or receiver to the SOURCE position.

- 1 Press the POWER switch ① to the ON () position.
- 2 Load the cassette tape ②, ③.
(Check that the erasure prevention tabs of the cassette housing have not been broken off.)
- 3 Press the DOLBY NR button ⑥ and select the Dolby NR type that suits the recording.



- 4 Turn the MPX FILTER button ⑦ on to record FM broadcasts in Dolby NR.
The "MPX" filter indicator will light up.
- 5 Press the REC/REC MUTE () button ⑭ to set the recording pause mode. The "⏏ REC" indicator will light up.
- 6 Adjust the recording level with the INPUT LEVEL control ⑫ while watching the Peak Level Meter
- 7 Use the BALANCE control knob ⑩ to adjust the balance of the left and right channel recording input level.
- 8 Press the PLAY () button ⑭ to start the recording.
The "▷" and the "ⓄREC" indicator will light during recording.
- 9 To pause the recording, press the REC PAUSE () button ⑭. Press the PLAY () button ⑭ to resume recording.
- 10 To stop recording, press the STOP () button ⑭.

Caution:

- Be careful not to erase important recordings by mistake. Inadvertent start of recording will happen in the following cases:

1. If the PLAY () button is pressed while the "ⓄREC" indicator lights, recording starts.
 2. If the PLAY () and REC/REC MUTE () button are pressed at the same time, recording starts.
- The best way to avoid accidental erasure is to break off the two erasure prevention tabs on the cassette housing.
- Always press the STOP button before turning off the power during recording.

AUTO TUNING

Though tapes may be of the same type, tapes of different manufacturers and even tapes of the same manufacturer may have slightly different recording characteristics. The auto tuning system is a function which automatically sets the optimum recording characteristics to take maximum advantage of the performance of individual tapes.

- 1 Set the cassette tape to be tuned into the cassette box ②.
- 2 Set the Dolby NR switch ⑥ for the position to be used for recording.
- 3 Press the AUTO TUNING button ⑮ and hold it in for at least 1 second. Tuning starts. The AUTO TUNING indicator flashes during tuning.
When the RESET button is pressed while pressing in the AUTO TUNING button, the tape is rewound to the beginning and plays for 9 seconds in the recording mute mode to the end of the leader section, after which tuning begins.
- 4 After 5 to 10 seconds, tuning is completed, the tape is automatically rewind to a position a little before the position at which tuning started, and the AUTO TUNING indicator stops flashing, remaining lit.
- 5 To cancel the setting:
During tuning: Press the STOP () button.
After tuning: Press the AUTO TUNING button.
↓
The recording characteristics are reset to the standard values.

Note:

- To achieve the optimum recording characteristics, we recommend always tuning each tape before recording, even for tapes of the same type and the same manufacturer.
- When the tape is replaced with a different type of tape after tuning is completed, the setting is canceled and the normal recording mode is set.

Caution:

1. If auto tuning is performed with recorded tapes, the recorded sound will be erased. To avoid erasing the recorded sound, perform auto tuning using a blank section of at least 30 seconds.
2. When auto tuning is canceled, the reference signal used for tuning remains recorded on the tape. This is normal.
3. If tuning is started from the beginning of the tape (the leader tape section), tuning is performed after the tape is forwarded to the magnetic portion. In this case, the tape is rewound to a position a little before the beginning of the magnetic portion (at the leader tape section) after tuning is completed.
4. If the tape is too near the end, the tuning mode may be canceled before tuning is completed.
5. The bias control knob on the front panel functions during auto tuning, so we recommend setting it to the center click position. If the bias control knob is set too far in one direction, the auto tuning system may not be able to fully correct the change in the frequency response and level, resulting in poor recording characteristics.

PROPER RECORDING LEVEL

A too high recording level can saturate the tape and cause distortion. On the other hand, if the recording level is set too low, soft passages will be marked by residual noise. A proper recording level is the single most important factor for making well balanced recordings.

Guideline for maximum recording level

TYPE I (Normal)	+ 1 dB level on peaks
TYPE II (High)	+ 3 dB level on peaks
TYPE IV (Metal)	+ 5 dB level on peaks

Note: The optimum recording level differs depending on the program source and the type of tape used.

RECORDING BIAS ADJUSTMENT

For best recording results, monitoring during recording and comparing different recordings using your own judgement are essential.

The DENON cassette deck is equipped with a BIAS FINE control to assist you in setting the proper bias for different types and brands of tape. At the center stop-click position, the deck is set to the reference bias level for Normal, High and Metal tape. If the resulting recording in this position has too much or too little high frequency content, adjusting the BIAS FINE control can be useful to achieve better results.

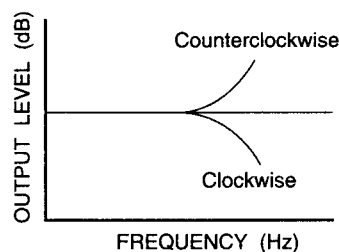
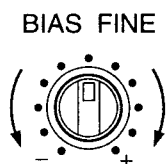
If the high frequencies (treble sounds) are to be boosted, turn the BIAS

FINE control counter-clockwise to decrease the bias current. Turn the control clockwise to increase bias current.

By the use of this control, you can record tapes with a frequency response that will perfectly match your listening taste.

Caution:

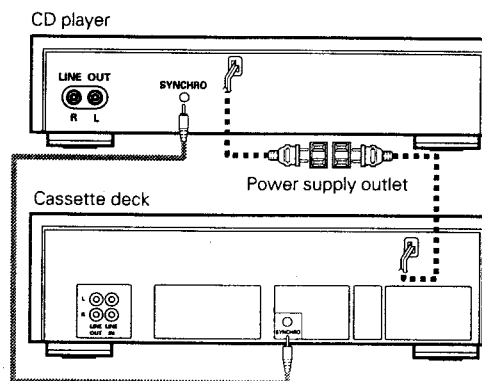
The bias control knob functions independently of the auto tuning system, so if it is adjusted after auto tuning, the bias changes starting from a flat recording characteristic.

**REC/REC MUTE AND REC PAUSE Button**

1. To record a 5-second blank section during recording:
Press the REC/REC MUTE (●) button. A 5-second blank will be recorded and the deck will enter the recording standby mode.
2. To record a 5-second blank section during the recording standby mode:
Press the REC/REC MUTE (●) button from the recording standby mode. A 5 second blank will be recorded and the deck will enter the recording standby mode again.
3. To cancel recording of blank space:
Press the REC PAUSE (||) button. Blank space recording will be cancelled and the deck enters the recording standby mode.
4. To extend the blank section with another 5 seconds or more:
Simply press the REC/REC MUTE (●) button and the blank section will be increased with another 5 seconds.

SYNCHRONIZED RECORDING FUNCTION

- Convenient synchronized recording can be performed when used in combination with a DENON CD player equipped for the synchronized recording function.
- **SYNCHRO Jack Connection** connect the SYNCHRO Jack with a DENON CD player which is equipped with a SYNCHRO jack, then make a synchronized recording. Use the connection cord supplied with this cassette deck
- Switch on your amplifier or receiver and the CD player.
- Set the tape Monitor switch on your amplifier or receiver to the source position.



- ① Load the tape, the disc you want to record into the CD player.
- ② Following the recording instructions on page 9, set the Dolby NR mode, and the input level.
- ③ Set the CD player to the stop or pause mode.
- ④ Press the REC/REC MUTE (●) button and REC PAUSE (||) button simultaneously. The cassette deck and CD player are automatically set to the synchronized recording mode. The "SYNC" indicator flashes on the cassette deck and the synchronized recording mode is indicated on the CD player.
(For details, refer to the CD player's operating instructions.)
- ⑤ To stop synchronized recording, press the stop button. The synchronized recording mode is cancelled for both the cassette deck and CD player.
- ⑥ To stop synchronized recording temporarily, press the stop button on the CD player. A 5-second blank space is created on the tape, after which the recording pause mode is set. The "SYNC" indicator flashes.
To resume synchronized recording, press the PLAY button on the CD player.

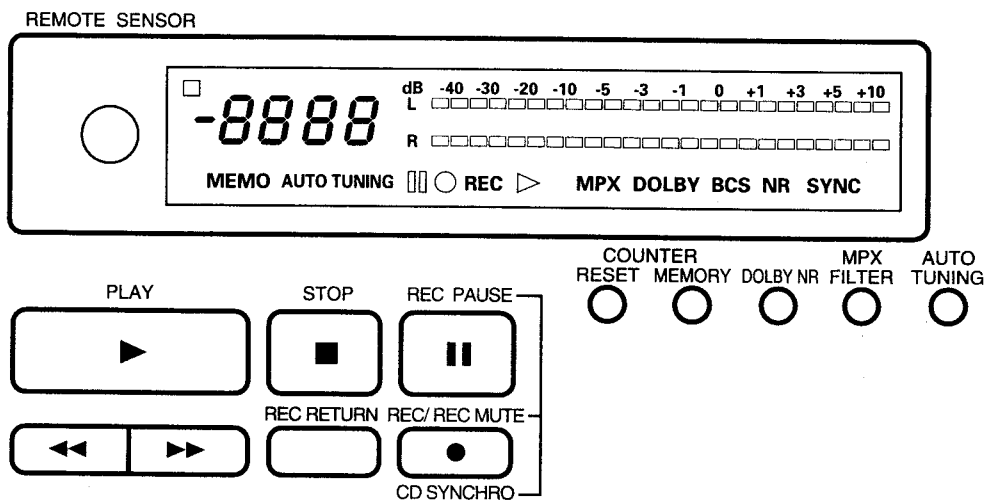
Note:

- If synchronized recording is started when the CD player is in a mode other than the stop or pause mode or when no disc is set, the "SYNC" indicator on the cassette deck flashes and the recording pause mode is set until synchronized recording is possible on the CD player.
- In the synchronized recording mode, only the STOP button will function.

Caution:

- Do not set the cassette deck to the synchronized recording mode when the CD player is in the play mode. Also, do not turn off the power of the cassette deck or the CD player during synchronized recording. Doing so can result in malfunction.
- During the editing operation, when using the editing functions on the CD player, be sure to select a tape with a sufficiently long recording time.

TAPE COUNTER AND MEMORY STOP



1) Operation of the Tape Counter

- (1) Press the RESET button to reset the counter to "0000".
- (2) By using the PLAY, FF, or REW functions, the reading of the counter will change to indicate index position.

- During recording and playback operations, the counter is useful for noting the location of existing programs or positions where recording is to be started.
- The reading of this counter does not correspond with that of any other deck.

2) MEMORY STOP Operation

- (1) During recording or playback, the Memory Stop feature can be used to locate a particular point on the tape. Press the COUNTER MEMORY button at the desired point.
- (2) The "MEMO" indicator lights.
- (3) When the Rewind (◀◀) button is pressed, the tape is rapidly rewound until the counter indication of "0000" is reached.
- The Memory Stop feature will rewind the tape to within -5 counts (from "0000" to "-0005"). After this, several seconds are required for corrective operations.

3) Display Back-up

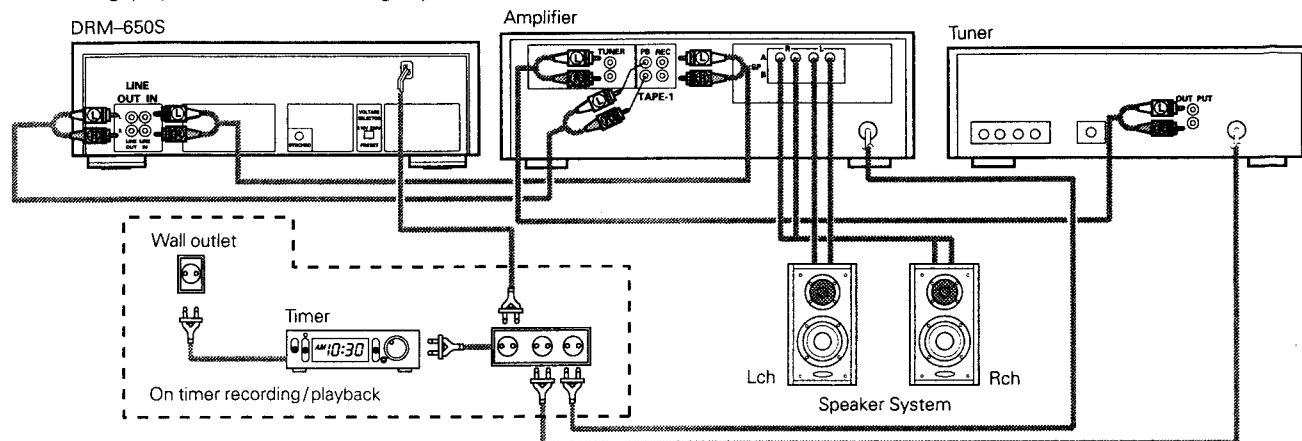
The functions DOLBY NR, MPX FILTER, AUTO TUNING and the counter content are protected by 24-hour memory back-up. After 24 hours DOLBY NR and MPX FILTER are set to "OFF" and the counter content is reset to "0000".

Caution:

If the memory stop operation is performed after repeated fast-forwarding or rewinding, the tape may not stop at the proper position.

TIMER RECORDING / PLAYBACK

Timer recording/playback can be made using any audio timer available on the market.



• Timer recording procedure

1. Make sure the connections are correct, especially the power supply connections.
2. Turn "on" the power switch of each appliance.
3. Tune the desired station on the tuner.
4. Load the tape for recording. (Make sure the erase prevention tab is not broken off; if it is, cover the hole with plastic tape).
5. Set the Dolby NR button to the appropriate position.
6. Make sure the monitor switch to the SOURCE position.
7. Adjust the recording input level.
8. Set the starting position of the tape.
9. Set the timer switch (TIMER) to the "REC" side.



10. Set the audio timer to the desired time. The audio timer will turn the power supply on at the desired time.

* With the above procedures, timer controlled recording can be made. When the preset time comes, the power is supplied and the FM broadcast can be recorded.

• Timer playback procedure

1. Make sure the connections are correct, especially the power supply connections.
2. Turn "on" the power switch of each appliance.
3. Load the pre-recorded tape to be played back.
4. Set the Dolby NR switches to the appropriate positions.
5. Set the monitor switch of the Amplifier to the TAPE position.
6. Press the PLAY (▶) button and playback the tape; adjust the playback level.
7. Press the stop (■) button.
8. Set the timer switch (TIMER) to the "PLAY" side.



8. Set the audio timer to the desired time. The audio timer will turn the power supply on at the desired time.

* With the above procedures, timer playback can be accomplished. When the preset time comes, the power is supplied and playback will start.

Note:

- Please read the operating instructions for the timer before use.
- If the timer recording or playback is not desired, be sure to switch the timer switch (TIMER) to "OFF".
- When using timers that allow several "on/off" operations, timer start functioning can continue an unlimited number of times until the tape in the machine is finished.

DIMMER ADJUSTMENT

With the DRM-650S, the brightness of the display can be adjusted in seven steps.

To make the display brighter, press the fast forward (▶▶) button while holding the STOP button.

To make the display dimmer, press the fast rewind (◀◀) button while holding in the STOP button.

The display is initially set to the maximum brightness.

MUSIC SEARCH SYSTEM

This device is a convenient system which detects the non-recorded part of more than 4 seconds between melodies, cues the next melody while the present melody is being reproduced or automatically detects the beginning of the melody now being reproduced and makes it into the reproduceable state.

1. For cueing the next melody while the present melody is being reproduced:

Press the PLAY button, keep it pressed in, and press the Fast Forward (▶▶) button. The tape transport indicator (▷) flashes. This device will detect the interval between melodies with the CUE state on, automatically become the PLAY mode and begin performing the next melody.

2. For hearing again the melody now being reproduced:

Press the PLAY button, keep it pressed in, and press the Rewind (◀◀) button. The tape transport indicator (▷) flashes. This device will detect the interval between melodies with the REVIEW state on, automatically become the PLAY mode, detect the beginning of the melody now being performed and play it from the first again.

Note: Note about MUSIC SEARCH action.

MUSIC SEARCH is a function which operates by detecting a comparatively long non-recorded part on the tape. Therefore, MUSIC SEARCH may not operate normally in the following cases.

- Sound on the tape is interrupted by speech or conversation.
- Long periods of pianissimo (softly played music) or non-recorded intervals occur on the tape.
- The tape has picked up noise in a non-recorded interval.
- Non-recorded intervals on the tape are less than 4 seconds in length.
- Noise-emitting electrical appliances are in operation nearby. i.e.; Electric razors, drills, refrigerators, etc.

DOLBY B, C AND S NOISE REDUCTION SYSTEM

- The Dolby noise reduction system substantially reduces the tape background noise (hiss) inherent in the cassette medium.
- Tape background noise consists primarily of high frequency information, which is particularly annoying during soft passages. The Dolby NR system increases the level of low volume mid- and high-frequency signals during recording and reduces the level of these signals by an identical amount during playback. As a result, the playback signal is identical to the original source, but the level of background noise generated by the tape is greatly reduced.

- The operating principle of Dolby C NR is similar to that of Dolby B NR except for the encoding/decoding response curves. The noise reduction effect obtained with Dolby C NR is up to 20 dB, compared to 10 dB with Dolby B NR. In addition, Dolby C NR uses an anti-saturation network and spectral skewing circuitry for a significant improvement in the dynamic range of the mid- to high-frequencies.
- The S-type provides a maximum noise reduction effect of 24 dB in the high frequencies and 10 dB in the low frequencies, and expands the dynamic range over a wide frequency range.

DOLBY HX PRO HEADROOM EXTENSION SYSTEM

This deck is equipped with the Dolby HX PRO headroom extension system. Since the system functions automatically during recording, no switching operation or adjustment is required. The system is effective with any type of Normal, High and Metal tape.

The Dolby HX PRO headroom extension system functions during recording to raise the saturation level in the treble range. Therefore, most of the treble range components distorted or lost during recording on conventional cassette decks are more faithfully recorded on the new DENON cassette deck.

Features of the Dolby HX PRO Headroom Extension System

- (1) Performance of Normal and High tapes can be improved to very close of that offered by Metal tape.
- (2) The dynamics in the treble range are improved significantly.
- (3) Since no decoding is necessary during playback, the improved sound can be enjoyed on any type of tape deck, including portable players and car audio systems.
- (4) The system functions whether the Dolby B/C/S NR system is engaged or not.

MAINTENANCE

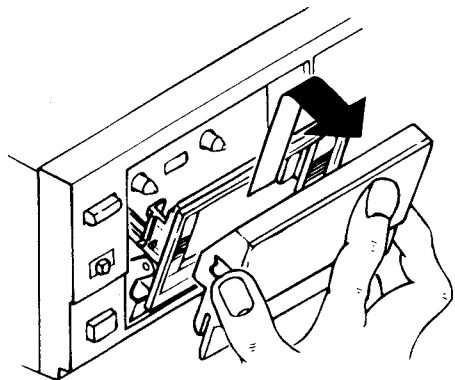
■ Removing the cassette compartment cover

It will be more convenient if the cassette compartment cover is removed during the cleaning of the pinchroller and heads, or during demagnetizing of heads.

Follow these procedures:

1. Press the EJECT button to open the cassette compartment.
2. Hold only the cover of the cassette compartment and pull it up. The compartment cover is removed from the front.

When attaching the cassette compartment cover, reverse the above procedure.

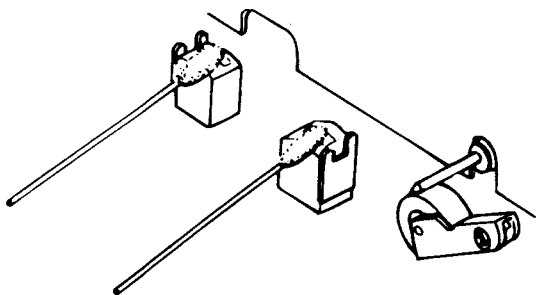


■ Head cleaning

After long usage, tape coating or dust may adhere to the heads, causing deterioration of sound. Clean them regularly. Use a cotton swab moistened with cleaning solution (such as alcohol).

Note:

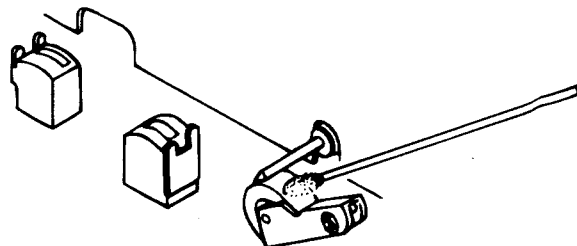
1. Some cleaning cassettes on the market have a strong abrasive effect and scratch the heads. Use cotton swabs instead of cleaning cassettes.
2. Since the use of metal tapes is apt to collect more dust on the heads, clean the heads more often to enjoy optimum sound.



■ Cleaning the pinchrollers and capstans

If the pinchroller or capstans accumulate dust, tape transport may become unstable resulting from slippage during recording or playback. The tape can also be damaged by being rolled up around the capstan.

Clean them with a cotton swab or a soft cloth moistened with cleaning solution (such as alcohol).



■ Demagnetizing the heads

The heads may become magnetized after long usage or by having a strongly magnetized object brought near them. The result is a generation of noise, loss of the high frequency range, or erasing the treble components of pre-recorded tapes and adding noise. Demagnetize the heads on a regular basis.

Procedure

1. Be sure to turn "off" the power supply.
2. Turn the demagnetizer "on" while it is more than 30 cm away from the heads. Bring the demagnetizer near the heads and slowly move it in a small circle four or five times.
3. Slowly move the demagnetizer away from the heads and turn "off" the power of the demagnetizer when it is about 30 cm away from the heads.

TROUBLESHOOTING

Make sure of the following before you consider as any malfunctions.

1. Are all the connections correct?
2. Is the set being operated correctly in accordance with the operating instructions?
3. Are the speakers and amplifiers functioning correctly?

If the tape deck still does not function properly, check it again, using the check list below. If the symptom does not correspond to the check list, please contact your DENON dealer.

Problem	Cause	Remedy
Tape does not run.	• Power cord is off. • Tape is completely wound up. • Tape is loose. • Cassette is not loaded properly. • Defective cassette.	• Check power cord. • Rewind tape. • Tighten tape with a pencil, etc. • Load cassette properly. • Replace cassette.
Tape is not recorded when recording button is pressed.	• No cassette is loaded. • Erase prevention tab is broken off.	• Load cassette. • Cover hole with plastic tape.
Sound is warbled or distorted.	• Heads, capstan or pinchroller are contaminated. • Tape is wound too tight. • Recording input level is too high. • Tape is worn out and has "drop-outs".	• Clean them. • Fast forward or rewind to loosen tape winding. • Adjust recording input level. • Replace tape.
Excessive noise.	• Tape is worn. • Heads, capstan or pinchroller are contaminated. • Heads are magnetized. • Recording input level is too low.	• Replace tape. • Clean them. • Demagnetize heads. • Adjust recording input level.
High frequency (treble) is emphasized.	• Dolby NR button is set improperly.	• Set Dolby NR button properly.
High frequency (treble) is lost.	• Heads are contaminated. • Tape is worn.	• Clean them. • Replace tape.
The cassette tape cannot be removed.	• If the power switch is turned off in either the recording or playback mode, and the unit is stopped, there may be case when the cassette cannot be removed, even if the EJECT button is pressed.	• Turn the power switch ON again, and then press the stop (■) button. Then, in the stop mode, press the EJECT button to remove the cassette tape.

SPECIFICATIONS

Type	Vertical tape loading; 4-track 2-channel stereo cassette tape deck	Inputs	
Heads	Record/Playback (R/P head) × 1 Erase head (Double-gap ferrite head) × 1	line	80 mV (−20 dBm) input level at maximum Input impedance: 50 kΩ/kohm
Motors	Capstan (DC servo motor) × 1 Reel (DC motor) × 1	Outputs	
Tape Speed	4.8 cm/sec.	line	775 mV (0 dB) output level at maximum (with 47 kΩ/kohm load, recorded level of 200 pwb/mm)
Fast Forward, Rewind Time	Approx. 110 sec. with a C-60 cassette	headphones	1.2 mW output level at maximum (optimum load impedance 8 Ω/ohm ~ 1.2 kΩ/kohm)
Recording Bias	Approx 105 kHz	Power Supply	230 V 50 Hz
Overall S/N Ratio (at 3% THD level)	Dolby C NR on: more than 74 dB (CCIR/ARM) Dolby S NR on: more than 76 dB (CCIR/ARM)	Power Consumption	16 W
Overall Frequency Response	25 ~ 18,000 Hz ~ ±3 dB (at −20 dB, Metal tape)	Dimensions	434 (W) × 135 (H) × 270 (D) mm
Channel Separation	More than 40 dB (at 1 kHz)	Weight	3.8 kg (8 lbs 6 oz)
Crosstalk	More than 65 dB (at 1 kHz)		
Wow & Flutter	0.055% WRMS, ±0.14% w. peak		

* Design and specifications are subject to change without notice in the course of product improvement.

Best results will be obtained with use of DENON GR Series cassette tapes.

Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.

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